CLAIM SET AS AMENDED

1. (Currently Amended) A lighting apparatus using ~~microwave~~ microwaves, comprising:

a resonator ~~excluding microwave and~~ for transmitting a light and preventing an escape of the microwaves;

a conical shaped waveguide for transmitting the ~~microwave~~ microwaves into the resonator;

a microwave generating means installed on ~~the~~a side of the waveguide and ~~oscillating microwave~~ transmitting the microwaves into the waveguide; and

a bulb placed at ~~the~~a center of the resonator and emitting the light by generating a plasma by the ~~microwave~~ microwaves transmitted through the waveguide,

wherein said waveguide is placed at an internal domain of the resonator.

2. (Currently Amended) The apparatus of claim **1**, wherein the resonator has a ~~sphere~~ spherical shape, and the waveguide is installed within ~~the radius~~ a radial sector of the resonator.

3. (Currently Amended) The apparatus of claim **2**, wherein the resonator has an opened portion ~~so as to place~~ for receiving the waveguide, and the waveguide is fixed to the resonator by being ~~inserting~~ inserted into the opened portion of the resonator.

4. (Currently Amended) The apparatus of claim **3**, wherein outwardly extended flange portions are respectively ~~formed at~~provided on the resonator and the waveguide, and respectively fixed to the resonator and the waveguide by fixing means.

5. (Currently Amended) The apparatus of claim **2**, wherein ~~the waveguide has a conic shape, the~~a vertex of the conical shaped waveguide is placed at the center of the resonator, ~~the~~an opened bottom portion of the waveguide is ~~formed as~~ provided with a curved surface ~~so as to be~~ having a ~~-~~same shape as the ~~sphere~~spherical shape of the resonator ~~and is placed so as to correspond~~, the bottom portion of the waveguide corresponding to an external extended portion of the resonator.

6. (Currently Amended) The apparatus of claim **5**, wherein the waveguide ~~is constructed with~~includes a ~~conic~~ conical shaped body portion, ~~having an opened bottom portion~~ and a cover portion being fixed to the opened bottom portion ~~of the body portion~~.

7. (Currently Amended) The apparatus of claim **5**, wherein the waveguide has at least one first outlet at an inclined plane ~~of the~~to an internal area of the resonator in order to transmit microwaves into the resonator.

8. (Currently Amended) The apparatus of claim **7**, wherein a plurality of first outlets are ~~lengthily formed~~provided with lengths in ~~the radius~~a radial direction of the resonator and centering around the vertex of the waveguide.

9. (Currently Amended) The apparatus of claim **7**, wherein the at least one first outlet ~~lengthily formed~~ is arranged with a length in ~~the radius~~ a radial direction of the resonator and ~~the~~ at least one second outlet ~~lengthily formed in the circumference~~ is arranged with a length in a circumferential direction of the resonator, the first and second outlets being ~~centering~~ centered around the vertex of the waveguide ~~are arranged~~.

10. (Currently Amended) The apparatus of claim **5**, wherein the vertex of the waveguide ~~is~~ includes a concave portion for receiving ~~so as to place~~ the bulb.

11. (Currently Amended) The apparatus of claim **10**, wherein a reflecting means is installed between the bulb and the concave portion of the waveguide in order to reflect the light emitted from the bulb ~~in the front~~.

12. (Original) The apparatus of claim **11**, wherein the reflecting means is a reflecting mirror installed between the bulb and the concave portion of the waveguide.

13. (Currently Amended) The apparatus of claim **11**, wherein the reflecting means is a reflecting layer coated onto ~~the~~ an outer surface of the concave portion of the waveguide.

14. (Currently Amended) The apparatus of claim **1**, further comprising:

a casing combined and fixed to ~~the~~ a bottom portion of the waveguide at the external region of ~~the~~ an extended portion of the resonator in order to cover the microwave generating means, a high voltage generator and a cooling unit.

15. (Canceled).

16. (Currently Amended) The apparatus of claim **1**, wherein the microwave generating means is fixed to the waveguide at the external region of ~~the~~ an extended portion of the resonator.

17. (Currently Amended) The apparatus of claim **1**, further comprising

a rotation shaft connected to the bulb and penetrating the waveguide; and

a bulb motor placed at ~~the~~ a bottom surface of the waveguide and rotating the bulb by being connected to the end of the rotation shaft.

18. (New) A lighting apparatus using microwaves, comprising:

a resonator for transmitting a light and preventing an escape of the microwaves;

a waveguide for transmitting the microwaves into the resonator;

a microwave generating means installed on a side of the waveguide and transmitting the microwaves into the waveguide;

a bulb placed at a center of the resonator and emitting the light by generating a plasma by the microwaves transmitted through the waveguide; and

outwardly extended flange portions respectively provided on the resonator and the waveguide, the waveguide being placed in an internal domain of the resonator, and being fixed to the resonator by fixing means passing through the extended flange portions.

19. (New) The apparatus of claim **18**, wherein the waveguide is installed within a radial sector of the resonator.

20. (New) The apparatus of claim **19**, wherein the resonator has an opened portion for receiving the waveguide, and the waveguide is fixed to the resonator by being inserted into the opened portion of the resonator.